Concerning the Stability of Complex Compounds of Vinylacetylenes in CuCl-MCl Solutions

77630
SOV/80-33-2-5/52

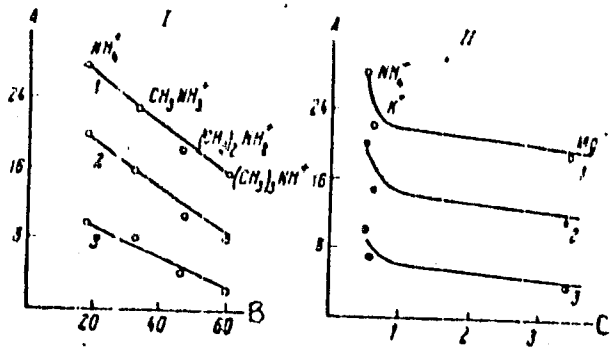

Fig. 2. Rate of formation of vinylacetylene complex compounds in CuCl-MCl solutions as a function of the cation nature. (A) C_4H_4 absorption rate $-v \cdot 10^{-4}$ (in moles/sec); (B) cation weight (in g); (C) cation field strength. Given: MC_4H_4 (in moles/l). (1) 0.37; (2) 0.25; (3) 0.13. I, substituted ammonia; II, metals.

Card 5/5

5.3300

78235
SOV/80-33-3-36/47

AUTHORS: Klebanskiy, A. L., Dolgopol'skiy, I. M., Dobler, Z. F.

TITLE: Concerning the Increase of the Hydrogen Ion Concentration Accompanying the Formation of Complex Acetylene and Vinylacetylene Compounds. Communication IV

PERIODICAL: Zhurnal prikladnoy khimii, 1960, Vol 33, Nr 3, pp 716-723 (USSR)

ABSTRACT: The authors were the first to show conclusively (Trudy VNIISK, Goskhimizdat (I), 80, 1948) that the dissolution of acetylene and vinylacetylene in acid aqueous CuCl-MCl solutions and the formation of complex compounds is accompanied by an increase of hydrogen ion concentration. In the present paper, the above phenomenon was studied in CuCl-NH_4Cl solutions, and the ion concentration was measured chemically and potentiometrically (with G. A. Seryshev' method, using a glass electrode) after dissolution of various amounts of the above gases. The increase of hydrogen ion concentration depended on the CuCl:NH_4Cl ratio and on the concentration of

Card 1/2

Concerning the Increase of the Hydrogen Ion Concentration Accompanying the Formation of Complex Acetylene and Vinylacetylene Compounds. Communication IV

78235
SOV/80-33-3-36/47

CuCl in the solution. In concentrated solutions, the increase corresponded to the ionization of 2 g-ions for acetylene, and to about 1 g-ion for vinylacetylene. There are 7 tables; 3 figures; and 11 references, 2 U.S., 2 French, 3 German, 4 Soviet. The U.S. references are: H. Gilman, K. Z. Bebb, J. Am. Chem. Soc., 61, 109 (1939); L. H. Ryerson, B. Gillespie, ibid., 59, 900 (1937).

SUBMITTED: April 19, 1959

Card 2/2

S/080/60/033/04/30/045

AUTHORS: Klebanskiy, A.L., Dolgopol'skiy, I.M., Dobler, Z.F.

TITLE: On the Effect of Various Factors on the Degree of Ionization of Acetylene and Vinylacetylene in $CuCl-NH_4Cl$ Solutions. Communication 5.

PERIODICAL: Zhurnal prikladnoy khimii, 1960, Vol 33, Nr 4, pp 931 - 934

TEXT: It has been shown that during desorption of acetylene and vinylacetylene from $CuCl-NH_4Cl$ solutions a decrease of the acidity of the solutions or correspondingly a decrease of the concentration of hydrogen ions in the solution takes place. With an increase in the temperature the quantities of acetylene and vinylacetylene bound in the form of complex compounds with $CuCl-NH_4Cl$ decrease and the concentration of hydrogen ions in the solution decreases correspondingly. The degree of ionization of acetylene in $CuCl-NH_4Cl$ solutions decreases with an increase in the hydrochloric acid concentration in them, which is explained by a change in the composition of the complex compounds formed. During the formation of complex compounds of acetylene hydrocarbons which do not contain active hydrogen in the acetylene bond (like divinyl acetylene and acetylene tetramer), an increase in the concentration of hydrogen ions does not take place.
There are: 4 tables and 2 graphs.

Card 1/1

S/030/60/033/04/39/045

AUTHORS: Dolgopol'skiy, I.M., Klebanskiy, A.L., Dobler, Z.F.

TITLE: On the Effect of the Nature of M^+ Cations in CuCl-M^+Cl^- Complexes on the Ionization Degree of Acetylene and Vinylacetylene. Communication 6.

PERIODICAL: Zhurnal prikladnoy khimii, 1960, Vol 33, Nr 4, pp 975 - 978

TEXT: All factors affecting the stability of complex compounds have also a certain effect on ionization. It was established that the degree of ionization of acetylene and vinylacetylene decreases with an increase in the field intensity of the M^+ cation in CuCl-MCl complexes. The ionization degree decreases with an increase in the degree of substitution in the cations of the ammonium derivatives or the size of the alkyl radical. Analogous laws were established concerning the effect of cations on the stability of complex compounds of acetylene and vinylacetylene with CuCl-MCl solutions. An explanation is given of the effect of cations on the degree of ionization and the stability of complex compounds of acetylene and vinylacetylene. The explanation is based on the action of their field, directed contrary to the action of the field of the central copper atom (counterpolarizing effect), causing the weakening of the polarizing effect of the central copper atom and the decrease in the stability of complex compounds. There are 3 graphs, 1 table and 2 Soviet references.

SUBMITTED: June 19, 1959

Card 1/1

11.2214
15.9206

27500
S/063/61/006/003/004/004
A051/A129

AUTHORS: Ryazanova, R.M., Dolgopol'skiy, I.M., Klebanskiy, A.L.

TITLE: Perfluorobutadiene in the reaction of diene synthesis

PERIODICAL: Zhurnal Vsesoyuznogo Khimicheskogo Obshchestva im.D.I.Mendeleyeva, v.6, no. 3, 1961, 356 - 357

TEXT: The authors have studied the behavior of hexafluorobutadiene in diene synthesis reactions, characteristic for a conjugated system of double bonds. They investigated the reaction of hexafluorobutadiene with maleic anhydride, 1,4-naphthaquinone, acrylonitrile, styrene, methylmethacrylate, divinyl and isoprene. Hexafluorobutadiene was synthesized according to Ref. 4: Ch. Slesser, S.R. Schram, Preparation, properties and technology of fluorine and organic fluoro-compounds, N.Y. - Toronto - London, 1951. It was established that hexafluorobutadiene does not react with maleic anhydride nor with 1,4-naphthaquinone, both without a solvent as well as with a solution of toluene. The reactions with acrylonitrile, styrene and methylmethacrylate resulted in the production of addition products with satisfactory yields, boiling within a narrow temperature range. Theoretically it was expected that as a result of the interaction bet-

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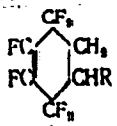
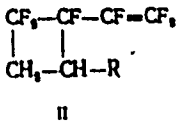
A051/A129

Perfluorobutadiene ...

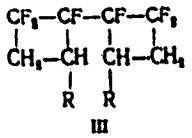
ween acrylonitrile and styrene with hexafluorobutadiene one of the following structures would result:



I



II



III

where R = CN, C_6H_5

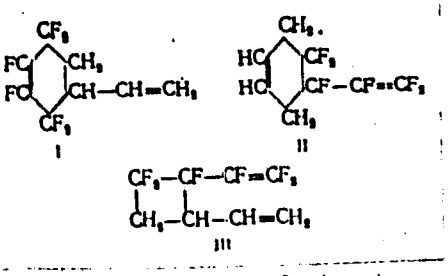
The absence of structures (I) was determined from data of infrared spectra of these compounds. In the fractionation of the product of interaction between hexafluorobutadiene and divinyl and isoprene, two fractions each time were obtained. The determination of the molecular weights, calculation of the molecular refractions and an analysis for unsaturation indicated that the low-boiling fractions were an addition product of one molecule of hexafluorobutadiene and one molecule of a diene hydrocarbon. One of the following isomers was theoretically expected

Card 2/ 4

27500
S/063/61/006/003/004/004
A051/A129

Perfluorobutadiene ...

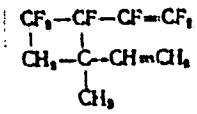
from the addition product and divinyl:



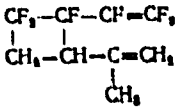
I II

III

For the addition product and isoprene, in addition to the listed structures of type (I) and (II); the cyclobutane derivative can occur in the form of two isomers determined by the position of the group-CH_3 with respect to the cycle:



IV



V

The high-boiling fractions of the addition products with divinyl and isoprene were assumed to be addition products of the second molecule of the diene hydro-

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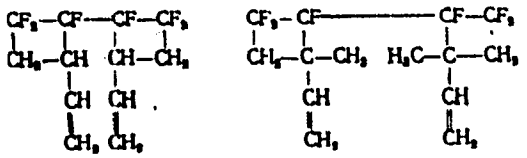
27500
S/063/61/006/003/004/004
A051/A129

Perfluorobutadiene ...

carbon to the remaining perfluorovinyl group. Based on the properties mentioned, the structure of these compounds is given as:



There are 4 references: 3 Soviet-bloc and 1 non-Soviet-bloc.

ASSOCIATION: Vsesoyuznyy nauchno-issledovatel'skiy institut sinteticheskogo kauchuka im. S.V. Lebedeva (All-Union Scientific Research Institute of Synthetic Rubber im. S.V. Lebedev)

Card 4/4

DOLGOPOL'SKIY, I.M.; RYAZANOVA, R.M.

Some reactions of a linear dimer of trifluorochloroethylene.
Zhur.ob.khim. 32 no.5:1451-1455 My '62. (MIRA 15:5)
(Ethylene) (Chemistry, Organic--Synthesis)

ACCESSION NR AM4009907 BOOK EXPLOITATION S/

Dolgopol'skiy, I. M.; Labutin, A. L.; Lebedev, N. S.; Babayan, Sh. A.; Mal'shina, L. P.

Ethynol lacquer (Lak etinol'), Moscow, Goskhimizdat, 1963, 66 p. illus., biblio. Errata slip inserted. 5,500 copies printed. Series note: Korroziya v khimicheskikh proizvodstvakh i sposoby* zashchity*, vyp. 19.

TOPIC TAGS: corrosion, ethynol lacquer, chemical resistant plastic, protective paint, acetylene hydrocarbon, acetylene trimer, tetrameric acetylene

PURPOSE AND COVERAGE: The book describes the methods of obtaining and using ethynol lacquer as a film-forming substance in protective paints and grounds and also as the base when making chemical-resistant plastics. The book is intended for engineers and technicians specializing in the protection of equipment and metallic articles from corrosion.

TABLE OF CONTENTS [abridged]:

Card 1/2

KIEBANSKIY, A.L.; DOLGOPOL'SKIY, I.M.; DOBLER, Z.F.

Complex compounds of acetylene with CuCl - NH_4Cl. Part 1.
Zhur.ob.khim. 33 no.3:761-768 Mr '63 (MIRA 16:3)
(Acetylene compounds) (Copper chlorides)
(Ammonium chloride)

KIEBANSKIY, A.L.; DOLGOPOL'SKIY, I.M.; DOBLER, Z.F.

Effect of various factors on the formation of the complex compounds of acetylene with CuCl - NH_4Cl and properties of the latter. Part 2. Zhur.ob.khim. 33 no.3:768-772 Mr '63. (MIRA 16:3)
(Acetylene compounds) (Copper chlorides)
(Ammonium chlorides)

DOLGOPOL'SKIY, I.M.; TRENKE, Yu.V.

Course of the reaction of hydrogen chloride addition to vinylacetylene. Zhur.ob.khim. 33 no.3:773-777 Mr '63. (MIRA 16:3)

(Hydrochloric acid)
(Butenyne)

DOLGOPOL'SKIY, I.M.; TRENKE, Yu.V.; BLYUMENTAL', M.Kh.

Synthesis and isomerization of 4-chloro-1,2-butadiene. Zhur.ob.khim. 33 no.4:1071-1074 Ap '63. (MIRA 16:5)
(Butadiene) (Isomerization)

DOLGOPOL'SKIY, I.M.; KLEBANSKIY, A.L.; DOBLER, Z.F.

Effect of the nature of cations NH_4^+ in HCl on the composition of complex compounds of acetylene with CuCl - HCl. Part 3. Zhur.ob.khim. 33 no.4:1074-1076 Ap '63. (MIRA 16:5)
(Acetylene compounds) (Copper chlorides) (Ammonium chloride)

L 10669-63 EPF(c)/EWP(j)/EWT(m)/BDS--ESD-3--Pr-4/Pc-4--RM/WW
S/079/63/033/004/002/010 66

AUTHOR: Klebanskiy, A.L., Dolgopol'skiy, I.M., Dobler, Z.F.

TITLE: Complex compounds of vinylacetylene with CuCl-NH_4Cl. IV

PERIODICAL: Zhurnal obshchey khimii, v. 33, no. 4, 1963, 1077-1079

TEXT: The authors examine the complex compounds which are formed when vinylacetylene is saturated with solutions of CuCl-NH_4Cl. The composition of the compound is $C_4H_4 \cdot 2CuCl \cdot NH_4Cl$ which corresponds to the results obtained indirectly by Tsyurikh and Ginzburg earlier. The amount of precipitate of this compound decreases with an increase of the weight ratio of NH_4Cl:CuCl and also with a decrease of the quantity of absorbed vinylacetylene. The composition of the complex compound of vinylacetylene with CuCl-NH_4Cl remains constant and does not change with change in

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L 10669-63 S/079/63/033/004/002/010

Complex compounds of vinylacetylene... 1

the conditions of formation, as with the concentrations of the components of the solution (C_4H_4, CuCl, NH_4Cl, and HCl) in the limits under study and with their ratios. The concentration of the components affects only the amount of the precipitate of the complex compound.

SUBMITTED: May 18, 1962

kes
Card 2/2

DOLGOPOL'SKIY, I.M.; KELBANSKIY, A.L.; DOBLER, Z.F.

Effect of the nature of cation on the composition of the complex compounds of vinylacetylene. Part 5. Zhur.ob.khim. 33 no.6: 1743-1746 Je '63. (MIRA 16:7)
(Butenyne) (Organometallic compounds)

DOLGOPOL'SKIY, I.M.; RYAZANOVA, R.M.

Synthesis of derivatives of chloroheptafluoroadipic and chloropentafluoroglutaric acids. Zhur.ob.khim. 33 no.6:2073-2074 Je '63. (MIRA 16:7)

(Adipic acid) (Glutaric acid)
(Fluorine compounds)

DOLGOPOL'SKIY, I.M.; KLEBANSKIY, A.L.; DOBLER, Z.F.

Effect of the nature of cation M^+ in MCl on the catalytic activity of CuCl solutions. Zhur.prikl.khim. 36 no.1:181-187 Ja '63. (MIRA 16:5)

(Chlorides) (Acetylene) (Catalysis)

DOLGOPOL'SKIY, I.M.; KLEBANSKIY, A.L.; DOBLER, Z.F.

Effect of the nature of cations M in MCl on the catalytic activity of solutions CuCl - MCl during the process of vinylacetylene dimerization. Zhur.prikl.khim. 36 no.2:394-398 F '63. (MIRA 16:3)
(Butenyne) (Polymerization) (Chlorides)

GUBANOV, V.A.; DOLGOPOL'SKIY, I.M.; SHCHERBAKOV, V.A.; TUMANOVA, A.V.

Interaction of perfluoromethyl perfluorovinyl ether with hydrogen halides. Zhur. ob. khim. 34 no.8:2802-2803 Ag '64. (MIRA 17:9)

L 16632-65 EWT(m)/EPF(c)/EPR/EWP(j) Pc-4/Pr-4/Ps-4 RPL/AFETR WW/RM
ACCESSION NR: AP4044198 S/0079/64/034/008/2802/2803

AUTHOR: Gubanov, V. A.; Tumanova, A. V.; Dolgopol'skiy, I. M.; Shcherbakov, V. A.

TITLE: Reaction of perfluoromethylperfluorovinyl ether with hydrogen halides

SOURCE: Zhurnal obshchey khimii, v. 34, no. 8, 1964, 2802-2803

TOPIC TAGS: perfluoromethylperfluorovinyl ether, hydrohalogenation, vapor phase hydrohalogenation, catalytic hydrohalogenation, physical property, chemical property, dihaloperfluoromethyoxyethane

ABSTRACT: The addition of the hydrogen halides to perfluoromethylperfluorovinyl ether $CF_3OCF = CF_2$ (I) was investigated. HF added to I by reaction at 115-120C for 21 hours with KF in formamide to form $CF_3OCFHCF_3$. The sodium salt of the perfluoromethyoxyperfluoropropionic acid in diethylene glycol pyrolysed at 170C to $CF_3OCF_2CF_2H$. HCl and HBr added to I in vapor phase at atmospheric pressure at 200C over a catalyst (0.75: 0.25 mixture of active carbon and $CaSO_4$)

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L 16632-65
ACCESSION NR: AP4044198

to produce $CF_3OCFHCF_2Cl$ and $CF_3OCFHCF_2Br$, with some of the dihalo derivative $CF_3OCFClCF_2Cl$ or $CF_3OCFBrCF_2Br$. The latter was also obtained by brominating $CF_3OCF=CF_2$ with liquid bromine. The addition of HF to t was not successful. These monohydromonohaloperfluoromethyoxyethanes were fairly stable, did not split off hydrogen halides even in 30% alkali. Their nuclear magnetic resonance spectra were studied; values of their physical and chemical properties and of the relative chemical shift are tabulated. Orig. art. has: 1 table

ASSOCIATION: None

SUBMITTED: 08Apr64 ENCL: 00

SUB CODE: GC NO REF SOV: 001 OTHER: 001

Card 2/2

TUMANOVA, A.V.; GUBANOV, V.A.; DOLGOPOL'SKIY, I.M.

Reactions of silver salt of perfluoromethoxyperfluoropropionic acid with halogens. Zhur. ob. khim. 35 no.3:587-588 Mr '65.

Characteristics of the polarization of the double bond of perfluoromethylperfluorovinyl ether. Ibid.:588

(MIRA 18:4)

GUBANOV, V.A.; TUMANOVA, A.V.; DOLGOPOL'SKIY, I.M.

Certain reactions of perfluoromethyl-3,3-dihydroperfluoroallyl ester. Zhur. ob. khim. 35 no.4:754-755 Ap '65.
(MIRA 18:5)

L 11778-66 EWI(1)/EWI(m)/EWP(j)/EWA(c) IJP(c)/RPL WW/GXM

ACC NR: AP6001091 SOURCE CODE: UR/0138/65/000/012/0006/0010

AUTHOR: Khachaturov, A. S.; Vol'kenshteyn, M. V.; Dolgopol'skiy, I. M.; Kol'tsov, A. I.; Barzhenov, N.M. (Deceased)

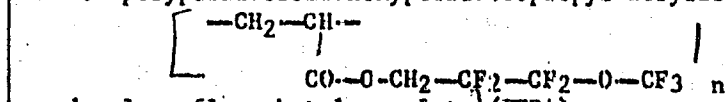
ORG: Institute of High Molecular Compounds, AN SSSR, Leningrad (Institut vysokomolekulyarnykh soyedineniy AN SSSR)

TITLE: Nuclear magnetic resonance study of fluorinated rubbers

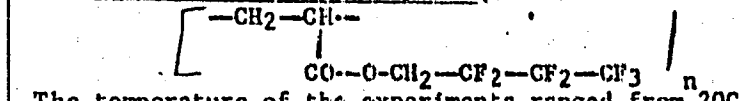
SOURCE: Kauchuk i rezina, no. 12, 1965, 6-10

TOPIC TAGS: nuclear magnetic resonance, rubber, spectrum analysis, elastomer, fluorinated organic compound

ABSTRACT: Two samples of fluorinated rubberlike elastomers were studied by means of NMR: polyperfluoromethoxyperfluoropropyl acrylate (PFMPA)



and polyperfluorobutyl acrylate (PFBA)



The temperature of the experiments ranged from 20C to the liquid nitrogen temperature. To analyze the temperature dependence of the width of partially superimposed absorption lines, a method was proposed and used in which the width of the spectral

Card 1/2 UDC: 678.743.31-134.341:541.6

L 11778-66

ACC NR: AP6001091

lines was determined from the contour of their outer shoulders. In PFMPA, the fluorine-containing groups separated by an oxygen atom have a much greater mobility than the corresponding groups in PFBA at the same temperatures. Experimental values of the second moments were determined for fluorine and hydrogen nuclei in the temperature range from -50 to -200C for both rubbers. Theoretical values of the second moments were calculated for rubbers in the hard, nonelastic state. It was shown by comparison that only the terminal CF3-O- group retains its capacity to move at -180C. Orig. art. has: 4 figures.

SUB CODE: 11, 20 / SUBM DATE: none / ORIG REF: 005 / OTH REF: 012

HW

Card 2/2

DOLGOPOL'SKIY, I.M. [Dolgopolskis, J.]; VAYSHNORAITE, K.V. [Vaišnoraitienė, K.]; KRYAUCHYUNAS, I.I. [Kriauciunas, J.]

Synthesis of vinyl fluoride using a suspended catalyst. Trudy AN Lit.SSR. Ser. B no.3:95-101 '65. (MIRA 19:1)

1. Institut khimii i khimicheskoy tekhnologii AN Litovskoy SSR. Submitted February 20, 1965.

OCHERETENKO, Dmitriy Ivanovich; DOLGOPOL'SKIY, N.A., inzh., red. vypuska; FURER, P.Ya., red.; [redacted]OL'SKAYA, M.S., tekhn. red.

[Hydraulic and compressor machines] Gidravlicheskie i kompressornye mashiny. Moskva, Mashgiz, 1962. 112 p. (MIRA 16:8)

(Hydraulic machinery) (Compressors)

NEFEDOV, Aleksandr Fedorovich; DOLGOPOL'SKIY, N.A., inzh., red. vypuska; KOMAROV, M.S., otvetstvennyy redaktor; BESPALOV, K.I., red.; RABINOVICH, A.N., red.; SHATS, Ya.Yu., red.; FURER, P.Ya., red.; GORNOSTAYPOL'SKAYA, M.S., tekhn. red.

[Mechanization of loading and unloading operations in automotive transportation] Mekhanizatsiia pogruzochno-razgruzochnykh rabot pri avtomobil'nykh perevoskakh. Moskva, Mashgiz, 1963. 106 p. (MIRA 16:7)
(Transportation, Automotive--Freight)
(Loading and unloading--Equipment and supplies)

DOLGOPOLYY, I.; KUTKOVETSKIY, Ya.; MESHCHERYAKOV, V.; SOSNIN, N.; GAL'PERIN, V., red.; ROZENBERG, A., tekhn.red.

[Soviet Moldavia] Sovetskaia Moldaviia. Kishinev, Gos.izd-vo Moldavii, 1957. 1 v. (MIRA 13:7)
(Moldavia)

KOROTKOV, P.A.; Prinimal uchastiye DOLGOPOLYY, V.A., diplomant

Investigating noncontact thermal microflowmeters for liquids and gases under laminary flow conditions. Izv.vys.ucheb.zav.; prib. 6 no.6:130-136 '63. (MIRA 17:3)

1. Leningradskiy tekhnologicheskiy institut imeni Lensoveta. Rekomendovana kafedroy avtomatizatsii khimicheskikh proizvodstv.

VARSHAVSKIY, I.L.; DOLGOPYATOV, A.M.; LUR'YE, V.A.

Calculating the theoretical cycle of internal combustion piston engines by taking dissociation into account. Trudy lab.dvig. no.1:5-32 '55. (MIRA 9:9)
(Automobiles--Engines)

DOLGOPYATOV, Grigoriy Yakovlevich; LAGUTINA, Ye.V., red.

[Headache] Golovnaia bol'. Moskva, Izd-vo "Znanie," 1964. 31 p. (Narodnyi universitet kul'tury: Fakul'tet zdorov'ia, no.8) (MIRA 17:5)

DOLGOPYATOV, Grigoriy Yakovlevich; LAGUTINA, Ye., red.

[On a nervous basis...; on neuroses, their origin, treatment and prevention] Na nervnoi pochve...; o nevrozakh, ikh vozniknovenii, lechenii i preduprezhdenii. Moskva, Izd-vo "Znanie," 1965. 36 p. (Narodnyi universitet; Fakul'tet zdorov'ia, no.13) (MIRA 18:8)

DOLGOPYATOV, Yu. (Chelyabinsk)

Built by the people. Zhil.-kom.khoz. 11 no.6:10-11 Je '61.
(MIRA 14:7)

(Chelyabinsk—Trolley buses)

DOLGOPYATOV, Yu.

Laundry with difficulties. Zhil.-kom. khoz. 11 no.9:25-27 S '61. (MIRA 14:11)

(Laundries, Public)

KUSHNIR, I.M.; DOLGOPYATOVA, M.N.; SABO, V.Ye.; SURINA, V.F.

Subcutaneous emphysema as a complication in childbirth. Vop. okh.mat.i det. 8 no.3:82-83 Mr '63. (MIRA 16:5)

1. Iz vrachebno-sanitarnoy sluzhby Zabaykal'skoy zheleznoy dorogi (nachal'nik V.G. Yegiazaryan, glavnyy akusher-ginekolog I.M. Kushnir).
(EMPHYSEMA) (LABOR, COMPLICATED)

RADCHENKO, L.E.; DOLGORYATOV, Yu.A., red.; ZLOBIN, M.V., tekhn. red.

[Breeding dairy cattle on the Panfilov Collective Farm] Molochnoe zhivotnovodstvo kolkhoza imeni Panfilova. Alma-Ata, Kazakhskoe gos. izd-vo, 1956. 10 p. (MIRA 11:7)

1. Zaveduyushchiy molochnotovarnoy fermoy kolkhoza imeni Panfilova, rayona imeni 28 gvardeytsev Taldy-Kurganskoy oblasti (for Radchenko).
(Kazakhstan--Dairy cattle)

VIRKH, Iza; DOLGOPYATOV, Yu.A., red.; ZLOBIN, M.V., tekhn. red.

[My experience in feeding cattle for milk] Moi opyt razdoia korov. Alma-Ata, Kazakhskoe gos. izd-vo, 1956. 13 p. (MIRA 11:7)

1. Doyarka kolkhoza imeni Malenkova, Kellerovskogo rayona, Kokchetavskoy oblasti (for Virkh).
(Kazakhstan--Dairy cattle--Feeding and feeding stuffs)

MAN'KO, Leonid Stepanovich; GORDIYENKO, N.S., kand. sel'skokhozyaystvennykh nauk, red.; DOLGOPYATOV, Yu.A., red.; KOZLOV, S.V., tekhn. red.

[What corn gave us] Chto dala nam kukuruza. Pod red. N.S. Gordienko. Alma-Ata, Kazakhskoe gos. izd-vo, 1956. 14 p. (MIRA 11:7)

1. Predsedatel' kolkhoza imeni Michurina Alma-Atinskogo rayona Alma-Atinskoy oblasti (for Man'ko).
(Kazakhstan--Corn (Maize))

VASIL'YEVA, Anastasiya Fedorovna; DOLGOPYATOV, Yu.A., red.; ZLOBIN, M.V., tekhn. red.

[Twenty years of work as a calf raiser] 20 let raboty telyatnitsei. Alma-Ata, Kazakhskoe gos. izd-vo, 1956. 17 p. (MIRA 11:7)

1. Starshaya telyatnitsa kolkhoza imeni Karla Marksa, Iliyskogo rayona, Alma-Atinskoy oblasti (for Vasil'yeva).
(Kazakhstan--Calves)

KOZLOV, Vladimir Pavlovich, inzh.; DOLGOPYATOV, Yu.A., red.; KOZLOV, S.V., tekhn. red.

[How to increase the productivity of the SKG-6 and SSh-6 planters] Kak povysit' proizvoditel'nost' seialok SKG-6 i SSh-6. Alma-Ata, Kazakhskoe gos. izd-vo, 1956. 15 p. (MIRA 11:7)
(Planters (Agricultural machinery)) (Corn (Maize))

ISKAKOV, Yeszhan; DOLGOPYATOV, Yu.A., redaktor; ZLOBIN, M.V., tekhnicheskiy redaktor

[More than 7 kilograms of fine wool from each sheep] Za 7 kilogrammov tonkoi shersti ot kazhdoi ovtsy. Alma-Ata, Kazakhskoe gos. izd-vo, 1956. 21 p. (MLRA 9:10)

1. Starshiy chaban Sary-Bulakskogo ovtsesovkhoza, Taldy-Kurganskoy oblasti (for Iskakov)
(Wool)

KUANYSHBAYEV, Zhezylbek, geroy sotsialisticheskogo truda; DOLGOPYATOV, Yu.A., redaktor; ZLOBIN, M.V., tekhnicheskiy redaktor

[My experience in breeding Karakul sheep] Moi opyt vyrashchivaniia Karakul'skikh ovets. Alma-Ata, Kazakhskoe gos. izd-vo, 1956. 21 p. (MLRA 9:10)

1. Starshiy chaban kolkhoza "Kenes", Kokterekskogo rayona, Dzhambulskoy oblasti. (for Kuanyshbayev)
(Karakul sheep)

DOLGOPYATOVA, Yu.A.

NUGMANOV, Agadym, master ovtsevodstva; KHASENOV, Sulayman, master ovtsevodstva; KOZHAKHMETOV, Aryn, starshiy chaban; DOLGOPYATOV, Yu.A., redaktor; ZLOBIN, M.V., tekhnicheskiy redaktor

[Winter lambing on our state farm] Zimnii okot ovets v nashem sovkhoze. Alma-Ata, Kazakhskoe gos. izd-vo, 1956. 22 p. (MLRA 9:10)

1. Starshiy chaban Sulukul'skogo sovkhoza, Kustanayskoy oblasti (for Nugmanov, Khasenov)
(Sheep breeding)

DOLGOPYATOV, Yu. A.

PLOTKIN, Moisey Ruvimovich, kandidat geograficheskikh nauk; DVOSKIN, Beniamin Yakovlevich, kandidat geograficheskikh nauk; DOLGOPYATOV, Yu.A., redaktor; GRAMARNIK, A.Z., otvetstvennyy po vypusku; OYSTRAKH, V.G., tekhnicheskiy redaktor

[Agricultural geography of Kazakhstan] Geografiia sel'skogo khozyaystva Kazakhstana. Alma-Ata, Kazakhskoe gos. izd-vo, 1956. 110 p. (MIRA 10:4)
(Kazakhstan--Agriculture)

Долгопятов, Ю. А.

BUCHKIN, Boris Alekseyevich; DOLGOPYATOV, Yu.A., red.; ZVEREV, N.V., spetsredaktor; NAGIBIN, P.A., tekhn.red.

[Kazakhstan is a republic of large-scale state farm production] Kazakhstan-respublika krupnogo sovkhoznogo proizvodstva. Alma-Ata, Kazakhskoe gos.izd-vo, 1956. 129 p. (MIRA 10:12)
(Kazakhstan--State farms)

K[illegible], [illegible]; [illegible]; [illegible], [illegible]; [illegible], [illegible]; [illegible], [illegible]

Cyclic variability of [illegible] and [illegible] reaction in pregnancy. [illegible] no.[illegible] '63. (MIRA 18:10)

1. Iz vrachebno-sanitarnoy sluzhby (nachal'nik - V.G.Yegiazaryan) Zabaykal'skoy zheleznoy dorogi i kafedry patofiziologii (zaveduyushchiy - dotsent V.A.Kozlov) Chitinskogo meditsinskogo instituta.

DOLGOPYATOVA, S.P. (Moskva)

Treatment of gastric and duodenal peptic ulcer by diet. Med. sestra 15 no.2:8-15 F '56. (MLRA 9:4)

(STOMACH--ULCERS) (DUODENUM--ULCERS) (DIET IN DISEASE)

DOLGOPYATOVA, S.P. (Moskva)

Therapeutic diet in dysentery. Med.sestra 15 no.7:17-19 Jl '56.
(DYSENTERY) (DIET IN DISEASE) (MLRA 9:10)

DOLGOPYATOVA, S.P.

Diet in Botkin's disease. Med. sestra 16 no.1:12-17 Ja '57.
(MLRA 10:2)

1. Bol'nitsa imeni S.P.Botkina, Moskva.
(HEPATITIS, INFECTIOUS) (DIET IN DISEASE)

DOLGOPYATOVA, Sh.P., (Moskva)

Diet in acute infectious diseases. Med.sestra 18 no.8:37-40 Ag '59. (MIRA 12:10)

(DIET IN DISEASE)

DOLGOPYATOVA, Sh.P., vrach-diyetolog

Role of diet in the prevention of atherosclerosis. Med.sestra 19 no.2:13-18 F '60. (MIRA 13:5)

1. Iz Instituta pitaniya Akademii meditsinskikh nauk SSSR, Moskva.
(ARTERIOSCLEROSIS) (DIET IN DISEASE)

DOLGOR, Ch., Cand Med Sci (diss) -- "Some problems of the clinical aspects and epidemiology of syphilis in the Mongolian People's Republic". Gor'kiy, 1960. 10 pp (Gor'kiy State Med Inst im S. M. Kirov), 300 copies (KL, No 12, 1960, 130)

DOLGOR, P., Cand Med Sci -- (diss) "Extra-secretory function of the pancreas in the resection of various sections of the stomach and in gastroectomy." Moscow, 1960. 20 pp; (Academy of Medical Sciences USSR); 200 copies; price not given; (KL, 18-60, 156)

PODGAYNOVA, V.N.; DOLGOREV, A.V.

Use of antipyrine derivatives in analytical chem. [illegible] Report No.7: Extraction-photometric determination of [illegible] by means of diantipyrylmethane and tin (II) chloride. Zhur. anal. khim. 20 no.10:1059-1063 '65. (MIRA 18:11)

1. Ural'skiy politekhnicheskiy institut im. S.M. Kirova, Sverdlovsk.

PODCHAYNOVA, V.N.; DOLGOREV, A.V.; DERGACHEV, V. Ya.

Use of antipyrine derivatives in analytical chemistry. Report No. 2:Photometric determination of vanadium by means of diantipyrylvinylbenzenemethane and diantipyryl-3,4-dimenthoxyphenylmethane. Zhur. anal. khim. 21 no.1:53-58 '66 (MIRA 19:1)

1. Ural'skiy politekhnicheskiy institut imeni Kirova, Sverdlovsk.

DOLGOREZHEV, G.N., elektromekhanik

Method for checking the insulation of switch mountings.
Avtom., telem. i sviaz' 8 no.5:43 My '64.
(MIRA 17:10)

1. Petropavlovskaya distantsiya Yuzhno-Ural'skoy dorogi.

MARKOVA, A. A.: DOLGOROZHEVA, N. A.

Children - Diseases

Diagnosis of laryngitis in children. Vest. oto-rin. 14 no. 4, 1952.

9. Monthly List of Russian Accessions, Library of Congress, November 1953, Uncl.

1. DOLGORUCHEVA, M. A.

2. USSR (600)

4. Syphilis

7. Case of tracheal syphilis. Vest. oto-rin. 14 no. 6, 1952.

9. Monthly List of Russian Accessions, Library of Congress, March 1953, Uncl.

DOLGOROZHEVA, N.A., kand.med.nauk; RODIONOVA, T.N.

Peculiarities of suppurative otitis media in infants immunized with BCG vaccine. Vest.otorin. 20 no.2:47-49 Mr-Ap '58. (MIRA 12:11)

1. Iz kliniki bolezney ukha, gorla i nosa (zav. - prof.D.M. Rutenburg) Leningradskogo pediatricheskogo meditsinskogo instituta.

(OTITIS MEDIA, in inf. & child
suppurative, clin. features in BCG vaccinated inf. (Rus))
(BCG VACCINATION, compl.
suppurative otitis media in inf., clin. features (Rus))

DOLGOROZHDVA, N.A., kand.med.nauk

Burns and stenosis of the esophagus in children [with summary in English]. Vest.oto.-rin. 20 no.4:85-88 Jl-Ag '58 (MIRA 11:7)

1. Iz kliniki bolezney ukha, gorla i nosa (zav. - prof. D.M. Rutenburg) Leningradskogo pediatricheskogo meditsinskogo instituta.
(ESOPHAGUS, stenosis
caustic in child. (Rus))

DOLGOROZHEVA, N.A., kand.med.nauk; MINTS, M.M.

X-ray treatment of chronic highmoritis in children. Zhur. ush., nos. i gorl. bol. 20 no.4:21-25 Jl-Ag '60. (MIRA 14:6)

1. Iz kliniki bolezney, ukha, gorla i nosa (zav. - prof. D.M. Rutenburg) Leningradskogo pediatricheskogo meditsinskogo instituta.
(NOSE, ACCESSORY SINUSES OF—DISEASES)
(X RAYS—THERAPEUTIC USE)

DOLGOROZHEVA, N.A., dotsent

Intracranial otogenous complications in children. Zhur.ush. nos. i gorl. bol. 23 no.2:77 Mr-Ap'63. (MIRA 16:8)

1. Iz kafedry bolezney ukha, gorla i nosa Leningradskogo pediatricheskogo meditsinskogo instituta (rektor - Ye.P.Semenova)
(EAR—DISEASES) (CHILDREN—DISEASES)

DOLGORUCHENKO, L., inzh.

Mizer and batcher for molasses. Muk.-elev. prom. 27 no.12:17-18 D '61. (MIRA 15:2)

1. Nauchno-issledovatel'skiy institut zhivotnovodstva Lesostepi i Poles'ya USSR.
(Feed mills--Equipment and supplies)

DOLGORUCHENKO, L., inzh.; ZINGER, Ye.

Machines for adding carbamide and molasses to mixed feeds and feed mixtures. Muk.-elev. prom. 30 no.3:15-20 Mr '64. (MIRA 17:4)

1. Nauchno-issledovatel'skiy institut zhivotnovodstva lesostepi i poles'ya UkrSSR (for Dolgoruchenko). 2. Khar'kovskaya mashinoispytatel'naya stantsiya (for Zinger).

DOLGORUKOV, M.I. (Leningrad, S-79, Doroga na stantsiyu Neva, dom 17, kvartira 29)

Case of resection of an esophagus deformed by cicatrices following its traumatic perforation. Grud. khir. 6 no.4:102-103 Jl-Ag '64. (MIRA 18:4)

SAZHINA, Musa Arkad'yevna; DOLGORUKOV, P.D., otv.red.; PAL'CHUN, I.F., red.

[Economic crises of overproduction; lecture] Ekonomicheskie krizisy pereproizvodstva; lektsiia. Otvet.red.P.D.Dolgorukov. Moskva, Izd-vo Mosk.univ., 1959. 64 p. (MIRA 13:3)
(Overproduction)

33567
S/194/61/000/012/043/097
D256/D303

1.5000

AUTHOR: Ovchinnikov, Yu. M., Dolgorukov, S. V. and Koldovskiy, R. B.

TITLE: Beta-ray thickness gauge БТП-1 (BTP-1) for coatings and its application in the printing industry

PERIODICAL: Referativnyy zhurnal, Avtomatika i radioelektronika, no. 12, 1961, 27, abstract 12V225 (Radioakt. izotopy i yadern. izlucheniya v nar. kh-ve SSSR, vol. 3, M., Gostoptekhizdat, 1961, 86-89)

TEXT: The instrument consists of a portable measuring head with a stand and an electronic unit; a ring shaped radioactive source includes ~100 μcurie of Tl^{204}. The flux of particles reflected from the measured object is registered by a differential ionization chamber. The instrument was devised for measuring the thickness of various coatings on various base materials. The instrument was tested in the Mosgorsovnarkhoz first model typography for chromium layers thickness control of the offset printing moulds. It was

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Beta-ray thickness gauge ....

found possible to measure the thickness from 0 to 3 μ and from 0 to 10 μ with a RMS error not exceeding 0.1 and 0.3 μ respectively. The tests proved the instrument "BTP-1" useful for thickness control of various galvanic deposits. There are 2 figures. /Abstractor's note: Complete translation./

Card 2/2

DOLGORUKOV, V. (Kirovskaya oblast')

A photoelectric relay using a transistor diode. Radio no.9:24 S '62. (MIRA 15:9)

(Electric relays)

DOLGORUKOV, V., (Engr-Capt)

"Increase the Emission of Jet [Aircraft] Materiel Textbooks" - Engr-Col M. Nemirovskiy, Engr-Lt Col T. Timofeyev, Engr-Capt V. Dolgorukov, and Engr-Sr Lt V. Starostin complain of the shortage of textbooks and manuals on jet aircraft material. Those textbooks which are available, in the estimation of these officers, are not satisfactory, and the good textbooks are too few in number. They state that in 1953 a group of officers from the Air Force Engineering Academy imeni Zhukovskiy prepared a textbook, but so few copies of the first part were printed that it has now become a rarity. They call on the Military Publishing House (Voyenizdat) and the State Publishing House of the Ministry of Defense USSR (Oborongiz) to rectify these shortages. (Krasnaya Zvezda, Moscow, 13 Apr 54).

SO: SUM 182, 13 August 1954

DOLGORUKOV, V.V., inzh.

Choosing spot welding conditions for VTI titanium. Sudostroenie 26 no.3(209):42-45 Mr '60. (MIRA 14:11)
(Titanium--Welding)

NALIMOV, N.P.; DOLGORUKOV, Yu.A.; PANKRATOV, D.I.

Operation of Public Designing Offices. Ogneupory 27 no.7:306-307 '62. (MIRA 15:8)
(Refractories industry--Equipment and supplies)
(Design, Industrial)

DOLGORUKOV, Yu.A.; NIKULIN, V.M.

Increasing the resistance of blast furnace shafts is an important potentiality of metallurgical production. Metallurg 10 no.9:9-11 S '65. (MIRA 18:9)

1. Donetskiy sovet narodnogo khozyaystva.

DOLGORUKOV, Yuriy Aleksandrovich

[Technical progress in the refractories industry] Tekhnicheskii progress v ogneupornom proizvodstve. Moskva, Metallurgiia, 1965. 102 p. (MIRA 18:6)

S/032/62/028/011/002/015
B106/B186

AUTHORS: Strel'nikova, N. P., Lystsova, G. G., and Dolgorukova, G. S.

TITLE: Determination of impurities in selenium

PERIODICAL: Zavodskaya laboratoriya, v. 28, no. 11, 1962, 1319 - 1321

TEXT: Cu, Ni, Co, Pb, and As impurities in selenium were determined quantitatively. Cu, Ni, Co, and Pb were separated from the bulk of Se by extracting their diethyl-dithio carbamates with chloroform from alkaline solution (phenolphthalein). Cu was extracted in the presence of Trilon B to prevent the coextraction of lead; lead extraction was effected with addition of potassium cyanide to prevent the coextraction of copper. The relevant metals were reextracted from the extracts with HNO_3. Finally, Cu was determined with diethyl-dithio carbamate, Ni with dimethyl glyoxime, Co with nitroso R-salt, and Pb with dithizon. Cu, Ni, Co, and Pb can also be separated by adsorption on a cationite from selenium which is not adsorbed from 0.1 N hydrochloride solution. To determine the As contained in Se, As was distilled from sulfate solution in the presence of HCl, hydrazine sulfate, and potassium bromide. In the distillate As was deter-

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S/032/62/028/011/002/015
B106/B186

Determination of impurities in selenium

mined on the basis of the color reaction with ammonium molybdate in sulfate solution in the presence of hydrazine sulfate. Using the methods described, the above-mentioned impurities can be determined in Se in concentrations of 10^{-3}%. There is 1 table.

ASSOCIATION: Noril'skiy gornometallurgicheskiy kombinat im. A. P. Zavenyagina (Noril'sk Combine of Mining and Metallurgy imeni A. P. Zavenyagin)

Card 2/2

KRASIL'NIKOVA, L.N.; DOLGORUKOVA, K.N.

Determining antimony in converter copper. Sbor.trud. VNIITSVETMET no.9:22-25 '65.

Cobalt determination in iron-rich samples. Ibid.:30-33 (MIRA 18:11)

DOLGORUKOVA, O.

Poultry breeding and maintenance on collective farms. Novosibirskoe obl. gos. izd-vo, 1951.

L 10549-66 EWT(m) RM

ACC NR: AP5027235 SOURCE CODE: UR/0020/65/164/006/1407/1408

AUTHOR: Dolgo-Saburov, V. B.

ORG: Military Medical Academy im. S. M. Kirov (Voenno-meditsinskaya akademiya)

TITLE: Change in DNA content in cells of an irradiated organism

SOURCE: AN SSSR. Doklady, v. 164, no. 6, 1965, 1407-1408

TOPIC TAGS: radiation injury, experiment animal, DNA, ~~biologic metabolism, x-ray effect~~ cytology, liver, x ray irradiation

ABSTRACT: Studies were conducted to determine changes in the liver DNA content of animals for which polyploidy is not characteristic. Guinea pigs whose liver cell population consists only of diploid cells were irradiated with a 300 r dose of X-rays and sacrificed after one day. In a weighed liver sample there were determined the gross amount of DNA, the number of cells per 1 gram of tissue, the DNA content in the cells, and the DNA content in the nucleus of the average cell. After 24 hours considerable changes were seen. Some cells retained their green fluorescence while some turned red. The green cells were identical with the healthy ones of the controls but the red cells showed a 35% decrease of

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ACC NR: AP5027235

DNA. In contrast to test reports on white rats, guinea pigs irradiated with a 300 r dose showed no DNA increase in the healthy cells. Thus cells retaining their vitality in tissues equal in respect to radiosensitivity but differing in regard to ploidy react differently in regard to DNA content in the nucleus. It is assumed that the increased amount of DNA in the liver of irradiated rats is due to an increase of cells with a high degree of ploidy rather than to new DNA synthesis, and that this represents a regenerative process and depends on changes in the ploidy level. Orig. art. has: 1 table.

SUB CODE: 06 / SUBM DATE: 04Jan65/ ORIG REF: 007/ OTH REF: 008

Card 2/2 pb

DOLGOS, Laszlo

Technical and economic news. Koh lap 97 no.4:207-208 Ap'64

DOLGOSHEIN, A.; DOROKHIN, L.

More attention to container-car transportation. Sov.torg. no.4: 34-37 Ap '59. (MIRA 12:6)
(Railroads--Freight-cars) (Packing for shipment)

SOV/120-58-6-29/32

AUTHORS: Dolgoshein, B. A. and Kuzin, L. A.

TITLE: A Fast Valve for Bubble Chambers (Bystrodeystvuyushchiy klapan dlya puzyr'kovykh kamer)

PERIODICAL: Pribory i tekhnika eksperimenta, 1958, Nr 6, p 116 (USSR)

ABSTRACT: A two-stage electromagnetic valve is described and is shown in Fig.1. As can be seen from this figure, pressure in volume 3 is transmitted via a rubber diaphragm 5 to the rod 7 . The other end of this rod closes the outlet aperture to the main volume. The valve is operated electromagnetically by means of the valve 1 . Various valves have been tried with outlet apertures of 14 and 40 mm in dia at a pressure of 40 atm. In these cases the electromagnet current was 15 to 20 mA. The delay time of the valve was 3 to 4 μs. M. M. Veremeyev and N. Golubchikov are thanked for their assistance. There is 1 figure.

ASSOCIATION: Fizicheskiy institut AN SSSR (Physics Institute of the Academy of Sciences USSR)

SUBMITTED: December 13, 1957.

Card 1/1

Dolgoshein, B. A.

SCATTERING OF SLOW μ -MESONS IN DIFFERENT SUBSTANCES
V. G. Kirilov-Ugryumov, B. A. Dolgoshein, A. M. Moskvichev, L. P. Morozova

In order to verify the data on "abnormal" μ-meson scattering, angular distributions of μ-mesons with a momentum close to 100 Mev/s in thin layers of beryllium, copper and iron were obtained by means of a multiplate cloud chamber.

The measurements were carried out with μ-mesons at sea level.

The experimental distributions agree satisfactorily with the theoretical curves plotted for electro-magnetic interactions between μ-mesons and nuclei.

An analysis was made of possible errors that may result in the spurious effect of the "abnormal" scattering.

Report presented at the International Cosmic Ray Conference, Moscow, 6-11 July 1959

DOLGOSHEIN, B. A.

~~Dolgoshein, B.~~

THE STUDY OF THE DEPENDENCE OF COSMIC RAY μ^+-MESON POLARIZATION AT SEA LEVEL UPON THEIR ENERGIES

B. Dolgoshein, B. Luchkov, V. Ushakov

A hodoscope system of counters operating with a high voltage pulse supply was used to measure the degree of polarization of μ^+-meson flux at sea level for different μ-meson energies. The μ-meson energy range was 300 Mev ÷ 1.5 Bev.

Report presented at the International Cosmic Ray Conference, Moscow, 6-11 July 1959

DOLGOSHEIN, B.A.

PHASE I BOOK [illegible] ION SOV/3556

Moscow. Inzhenerno-fizicheskiy institut

Nekotoryye voprosy eksperimental'noy fiziki; [sbornik] vyp. 2 (Some Problems in Experimental Physics; Collection of Articles. Nr. 2) Moscow, Atomizdat, 1959. 123 p. 3,200 copies printed.

Sponsoring Agency: RSFSR. Ministerstvo vysshego i srednego spetsial'nogo obrazovaniya.

Ed.: B.M. Stepanov, Doctor of Physical and Mathematical Sciences, Professor; Tech. Ed.: S.M. Popova.

PURPOSE: This collection of articles is intended for graduate engineers and physicists engaged in the design of physics (laboratory) apparatus, and automatic and telemechanic equipment.

COVERAGE: This collection of articles on experimental physics was written by members of the Moscow Physics and Engineering Institute. Each article is accompanied by drawings and references.

Dolgoshein, B.A., B.I. Luchkov, and V.I. Ushakov. Operation of Gas-Discharge Counters During Over-Loading Pulses — 32
The authors deal with the results of a study of the operation of the MS-9, GS-9, and GS-30 standard counters under controlled pulse feed operating conditions. The dependence of "ionization memory" on pulse feed conditions was studied and a simple method of measuring discharge propagation speed along the counter electrode is described.

Vlasov, A.D. Lenses Compensating the Effect of Intersection Gaps in a Linear Proton Accelerator — 40
The problem of compensating the unfavorable effect of intersection gaps on radial oscillations of particles in a linear proton accelerator is discussed.

Irotov, I.Ye. Calculating the Profiles of Magnetic Poles — 50
The article describes a method of computing profiles of the poles of magnetic analyzers of charged particles for a given field distribution in the plane of symmetry (the fringe effect is not taken into account).

Malov, A.F. Some Ionic Optical Properties of Static Axially Symmetrical Magnetic and Electric Fields — 54
The author reports on the nonlinear study of the ionic optical properties of crossed, axially symmetrical, sectoral type electric and magnetic fields with unequal arm focusing and edges of arbitrary form.

Vorob'yeva, M.A. Sensitivity of the Glowing Dot Method — 69

Kirillov-Ugryumov, V.G., B.A. Dolgoshein, A.M. Moskvichev, L.P. Morozova. Scattering of μ-Mesons with a Pulse of About 100 mev/c in Copper and Iron — 80

Dolgoshein, B.A. and B.I. Luchkov. Polarization of Flow of μ±-mesons at Sea Level — 92

Petrovich[illegible] V.[illegible] Heat Transfer During Turbulent Mercury Flow in Narrow [illegible] Channels — 96
The author describes experimental results on heat transfer of mercury in narrow [illegible] channels for a ratio of outside and inside [illegible] [illegible]

[illegible] — 106

[illegible] — 117
[illegible]

DOLGOSHEIN, B.A.; LUCHKOV, B.I.; USHAKOV, V.I.

Operation of gas-discharge counters at large pulse overvoltages. Mek.vop.eksp.fiz. no.2:32-39 '59. (MIRA 13:2)

(Nuclear counters)

KIRILLOV-UGRYUMOV, V.G.; DOLGOSHEIN, B.A.; MOSKVICHEV, A.M.; MOROZOVA, L.P.

Scattering of μ-mesons with a momentum of about 100 Mev/c in copper and iron. Nek.vop.eksp.fiz. no.2:80-91 '59. (MIRA 13:2)

(Mesons--Scattering) (Copper) (Iron)

DOLGOSHEIN, B.A.; LUCHKOV, B.I.

Polarization of streams of μ^+-mesons at sea level. Nek.vop. eksp.fiz. no.2:92-95 '59. (MIRA 13:2)
(Mesons)

24(5)

AUTHORS: Kirillov-Ugryumov, V. G., Dolgoshein, B. A., Moskvichev, A. M., Morozova, L. P.

SOV/56-36-2-11/63

TITLE: Scattering of μ-Mesons With Momenta of About 100 Mev/c in Copper and Iron (Rasseyaniye μ-mezonov s impul'som okolo 100 MeV/c v medi i zheleze)

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1959, Vol 36, Nr 2, pp 416-423 (USSR)

ABSTRACT: Fowler and Wolfendale (Fauler, Vol'fendal)(Ref 1) published a very complete survey of muon scattering in which they express the opinion that at low ($<$600 Mev) energies there exists no anomalous scattering and that the few cases in which such a scattering is reported to have been observed must be based on measuring errors. This opinion is confirmed by 3 new papers. Thus, Kirillov-Ugryumov and Moskvichev (Ref 2) investigated muon scattering at (130$\pm$16) Mev/c in 1 cm thick beryllium plates and did not find a single case of the scattering angle being $>6^{0}$ among a total of 2250 cases of muon scattering investigated. Also Alikhanyan and Arutyunyan (Ref 3), who carried out mass-spectrometric investigations of muon scattering in lead plates, and Chidley (Chidli) et al. (Ref 4)(E_{μ} = 25 Mev) could not find

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any anomalous scattering. Fukui, Kitamura, and Vataze observed observed no anomalous scattering even at high muon energies ($\sim$1 Bev). In order to solve this problem the authors of the present paper investigated muon scattering in lead plates of 4 mm thickness at $81.2 \leq p_\mu \leq 144$ Mev/c. The experimental arrangement is shown in form of a schematical drawing and is described. It consisted essentially of a large cloud chamber (55.14.40) cm^3 and a telescope with counters which were connected partly in coincidence and partly in anticoincidence. Particle identification was carried out in form of a rough estimate according to the ionization density and the multiple scattering of particles in the chamber plates. An estimate of the number of the protons to be expected resulted in a value of $<2\%$ of the total number of recorded particles; the value found was $(1.5 \pm 0.5)\%$. Muon momentum measurement was carried out according to the remaining range, measuring of the scattering angles was carried out by projecting the track on to the plane of the front glass of the chamber. The standard (mean square) deviation in muon scattering angle measurements was $<30'$. Two series of measurements were carried out separately, one with copper- and the other with iron plates. After a total exposure of 3600 hours

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475 muon (residual) tracks were found in the inner chamber for the former, to which there corresponded 1460 scattering events in the plates with $p_\mu > 75$ Mev/c; for the iron plates 890 scattering events were found. The differential angular distribution found is shown by 6 diagrams (Fig 2), 3 of which are for copper ($p = 85 \pm 4.5$, 98.7 ± 3.6, 112 ± 3.1) and for Fe ($p = 81.2 \pm 3$, 95 ± 2.4, 105.5 ± 1.5), p in Mev/c. For Cu the total investigated momentum range amounted to $85 \div 144$ and for Fe it was $81.2 \div 135$ Mev/c. In conclusion, the results obtained by the experimentally found angular distribution are compared with the theoretical muon-distribution curves by Mol'yer (Molière ?), which are based upon the assumption of a point nucleus. Good agreement was found. In an appendix to this paper calculation of the geometrical corrections in angular measurements are discussed (Figs 4, 5).

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TITLE: The Polarization of the Flux of μ^+-Mesons at Sea Level (Polyarizatsiya potoka μ^+-mezonov na urovne morya)

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1959, Vol 36, Nr 2, pp 640-641 (USSR)

ABSTRACT: This paper deals with the experimental determination of the polarization degree of cosmic positive muons at sea level. For this purpose, the authors measured the relative share of the decay positrons which in the decay of a stopped positive meson fly away into the upper hemisphere. The $\mu \rightarrow e$ decays were investigated in a great rectangular cloud chamber which contains 9 copper plates of 4 mm thickness. The muons entered the chamber with a momentum of $p_\mu \gtrsim 1.2$ Bev/c. The authors observed 202 muon decays 122 of which flew away into the upper hemisphere, and 80 - into the lower one. This ratio corresponds to the polarization degree $\eta = 0.98 \, ^{+0.02}_{-0.32}$. Control experiments proved that there are no great experimental errors. Theoretical calculations give

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the value $\eta = 0.3$ for the polarization degree of the muons produced by pions. The experimental result, therefore, does not agree with the theoretically calculated value. Moreover, it is contradictory to the experimental results obtained by G. W. Clark (Klark) and J. Hersil (Gersil), i.e. $\eta = 0.19 \pm 0.06$. This contradiction can be the result of a statistical fluctuation the probability of which amounts to ~1%. If further investigations confirm the results of the experiment discussed in this paper, the cause of this contradiction can be sought for the case that the mesons (within the momentum interval investigated in the present paper) are produced in the atmosphere not only by $\pi \rightarrow \mu$ decays. The authors investigated the polarization of muons which have momenta $\gtrsim 1.2$ Bev/c at seal level. Muons of such momenta preferably are produced in an altitude of some kilometers, and in the instant of production they have a momentum of 4 + 5 Bev/c. The $K_{\mu 2}$-decay can play an essential role in the production of muons of such momenta. For a sufficient accord with the experimental data, it is sufficient to assume that the number of the K-mesons amounts to 20% of the number of the pions. This conclusion can be drawn for energies of ~ 10 Bev. Thus, by investigating